

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS

OF

Proposed Certificate course on

“Python for statistics”

To be Effective from: 2021-2022 (February onwards)

1. Total teaching hours : 45 hrs
2. Credits: 3
3. Mode of instruction: English
4. Mode of teaching: Online / Offline
5. Eligibility: any candidate having who has passed HSC with English as a compulsory subject and has basic knowledge of statistics.
6. Evaluation: 30% internal + 70% external
7. Passing standard: As per UGC and university rules
8. No. of seats : 60
9. Fee structure: 3000/-

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Unit I	Overview of the Course Installing Python, Learning Jupyter note book and Spyder Variable types, mathematical and logical operator, conditional statement...if... Else, For loop while loop Data structure in python part1 defining: List, tuple, array, set, dictionary, Data structure in python part2: operations on Inbuilt methods Installing and understanding various basic libraries viz Numpy, Pandas, statsmodel, matplotlib and seaborn , sklearn Reading file ,writing Files ,merging files, sort, index Practical and Quiz 1	Hrs 15
Unit II	Descriptive statistics and Visualization Data Frequency, Mean, median, Range, Quartile max, min, correlation, percentile Exploring the data, Summarizing the Data, Handling missing value, visualizing the data and interpret summaries for univariate and multi variate data Scatter plot, Stem and Leaf plot ,Line plot, Bar and pie plot, Histogram, Box plot, Heat map Practical and Quiz 2	10
Unit III	Inferential Statistical Analysis in python ANOVA, Correlation and regression, Construction of confidence interval, Parametric Test, Non parametric test Practical and Quiz 3	10
Unit IV	Case Study and Group Project Fitting Statistical model to data with Python and evaluation of the model Linear Regression, Logistic Regression	10